

Japanese Naval Transformation and the Battle of Tsushima

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THE JAPANESE NAVY's defeat of the Russian fleet in the Battle of Tsushima in 1905 demonstrates the major transformation that took place in the Japanese navy during the previous decade. The Japanese navy was concerned with defeating the Russians, who had been increasingly making threatening incursions into Manchuria and Korea in search of warm-water ports. To counter Russia's moves, Japan pursued a three-pronged approach to completely transform its battle fleet's capabilities, producing innovations in munitions and explosives; tactics; and doctrine. The focus was on the classic Mahanian decisive naval victory in which the sole object was command of the sea and destruction of the enemy fleet.¹ The Japanese navy's transformation and expansion culminated with what maritime strategist Sir Julian Corbett calls "the most decisive and complete naval victory in history," the victory of the Japanese fleet over the Russian fleet in the Battle of Tsushima.²

A New Battle Fleet

The centerpiece of the Japanese transformation effort was a new battle fleet. This effort was remarkable in several ways. First, the Japanese resolved to create a true battle fleet from the ground up. Whereas Japan had gone to war with the Chinese in 1895 with a makeshift force of warships put together over the years, the new Japanese fleet would be a homogenous force designed to defeat a specific threat—a Western navy.³

The heart of the new battle fleet was to be four new battleships that would be built by the British plus two other battleships built under a previous program. The second unique aspect of expansion was that it was a conscious effort to make a quantum increase in Japan's naval strength relative to all other naval powers.⁴ This effort was most evident in the specifications for the four new battleships, the design of which took advantage of new developments in armor, allowing for increased protection at tremendous weight savings. The Japanese also insisted that the four new battleships were to be compatible in speed and gun caliber with the two existing ships to ensure that all six could operate effectively as a single unit.⁵ The goal was not merely to create a fleet on

par with Russia's, but to create a fleet that clearly surpassed any other navy's existing capabilities in both armament and armor.

The third distinctive aspect of the new combined fleet was that it would be balanced. At the time, many navies were constructing battleships, but the Japanese realized that "just as in the army, the infantry was supported by the artillery, cavalry, and engineers . . . , so battleships [needed to] be supplemented by lesser warships of various types."⁶ The fleet needed to be rounded out with armored cruisers to seek out and pursue the enemy and destroyers and torpedo boats capable of attacking the enemy near his home ports.

Innovative Munitions

Although the technology and construction of the battle fleet was largely of Western origin, the Japanese made the most revolutionary technological contributions in the area of naval explosives and ammunition. They combined three unique technologies: Shimose gunpowder, thin-skinned munitions shells, and the Ijuin fuze.⁷

A variant of explosives developed by the French, Shimose powder detonated with a much higher pressure and more extreme heat than previous variants. The Japanese navy maximized these characteristics by developing thin-skinned shells, allowing a far greater percentage of the munition's weight to be made of explosives, which produced a much greater bursting effect. The Ijuin fuze allowed the shell to explode on impact rather than after it had penetrated the armor of enemy ships.

This combination of elements was unique among modern navies because their use ran counter to contemporary naval tactics. At the time, developments in naval munitions focused on inflicting the maximum internal damage to ships by using thick, armor-piercing shells. The Japanese believed their thinner, impact-detonating shells could maximize damage to "unarmored but vital above-deck components of a warship and cause maximum casualties to its crew."⁸ Combined with the latest in hydraulically controlled main guns, the new munitions proved highly destructive during the Battle of Tsushima.

New Tactics and Doctrine

The third key innovation in Japan's naval transformation efforts was the development of naval tactics that could take advantage of the new battle fleet's capabilities. Instrumental to the development of Japanese naval tactics was the Japanese Naval Staff College, founded in 1888. The college, still in its infancy during the Sino-Japanese War, was the foundation and promoter of revolutionary naval thought before the Russo-Japanese War.

The college taught naval theory, stressing naval historian Alfred Thayer Mahan's concept of decisive battle, while also emphasizing the practical application of naval tactics and the ability of officers to think and make decisions in the heat of battle. Japanese naval thinkers of the day used the existing body of Western naval thought, their own experience, and the results of extensive wargaming to shape their tactics. Central to the formation of naval tactics for the combined fleet was the assumption that Japanese warships would be faster and more maneuverable than those of their adversaries. Given what Japanese tacticians knew about their potential enemies' larger, heavier, older ships, this was not a flawed assumption.

In devising their tactics, the Japanese realized that the best position for achieving the maximum concentration of fires from their naval column was to place their column at a right angle to that of the enemy, forming the cross bar of the letter T.⁹ As Brit-

ish Admiral Jackie Fisher noted during fleet maneuvers in 1901, "The lesson that has been emphasized is that the one all important, immediate imperative step is to form the fleet *in one single line at right angles to the direction* in which the enemy is sighted. . . . If both sides practice this golden rule and employ the single line of bearing then the fleet with the superior speed must win; that is, *battleships of superior speed*" [emphasis added].¹⁰

Japanese tacticians took the T tactic one step farther, adding the L tactic. During wargames, it was noticed that the T tactic would sometimes fail because the enemy could turn away from the Japanese column. The solution was to add a second Japanese column as a deceptive maneuver to produce a converging attack. While the first column "engaged the enemy directly (attempting to cap the T), the second column, approaching from an unexpected quarter, would position itself to catch the enemy in a crossfire. The two forces would each form one leg of an L, encircling the enemy and preventing him from escaping."¹¹ These two tactics, capitalizing on the Japanese warships' speed and maneuverability, served as the basis of the Japanese plan devised for the Russo-Japanese War.

The Battle of Tsushima

The Battle of Tsushima was fought on 27-28 May 1905 between the Japanese Combined Imperial Fleet under Admiral Heihachiro Togo and the

(Right) Admiral Heihachiro Togo of the Combined Imperial Fleet and (below) Russian Admiral Zinovi Petrovich Rozhdestvenski.



US Navy photos



Russian Baltic Fleet of Admiral Zinovi Petrovich Rozhdestvenski. The battle began when the Japanese sighted the Russian fleet traveling from southwest to northeast through the Straits of Tsushima on its way back to Vladivostok. Togo boldly ordered his fleet to turn in sequence from its course, which enabled his ships to take the same course as the Russians, essentially running parallel to them. This move risked each battleship in turn, but the Japanese ships emerged with little damage from the opening Russian fire.

The Japanese and Russian fleets stabilized their distance at 6,200 meters and exchanged fire. The Japanese gunners were more practiced and able to fire more accurately. As expected, their high-explosive Shimose munitions caused far more damage to the Russian ships in proportion to the Russian hits on Japanese ships.¹² Furthermore, Togo's ships could reach a full speed of 16 knots compared to the Russian maximum speed of only 8 knots. Togo could easily outmaneuver the Russians and use T tactics to cross the T twice, inflicting maximum damage on the slower Russian fleet.¹³

As the battle reached its conclusion on the morning of 28 May 1905, the Russian fleet was almost completely destroyed. Togo had captured or destroyed 31 of the 38 Russian ships while losing none of his own. The casualty differential was even greater. Japan lost 117 men, while the Russians lost 5,000. The Japanese had captured 6,000 men and had wounded an unknown number.¹⁴ While these numbers are staggering, the unquantifiable element of this battle was Togo's leadership under pressure



A Japanese sailor stands guard near a 12-inch gun turret of the captured Russian battleship *Orel*.

US Navy

and his determination to fight a decisive battle from the first moments of the encounter.

Decisive Battle

The Battle of Tsushima, the decisive battle of the Russo-Japanese War, demonstrated to the world the results of Japan's decade-long naval transformation toward achieving the Mahanian decisive battle at sea and countering Western influence in northeast Asia. Any of their technological developments individually would have enabled the Japanese to achieve naval parity with the West. However, the combination of technological, tactical, and organizational changes produced a lethal, modern navy and showed the world that Japan was a naval power to be reckoned with. **MR**

NOTES

1. Philip A. Crowl, "Alfred Thayer Mahan: The Naval Historian," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (New Jersey: Princeton University Press, 1986), 458.

2. William R. Sprance, "The Russo-Japanese War: The Emergence of Japanese Imperial Power," *Journal of Military and Strategic Studies*, on-line at <www.jmss.org/2004/fall/index2.htm>, accessed 19 October 2004.

3. David C. Evans and Mark R. Peattie, *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1867-1941* (Annapolis, MD: Naval Institute Press, 1997), 58.

4. *Ibid.*, 59.

5. *Ibid.*, 61.

6. *Ibid.*, 59.

7. *Ibid.*, 63.

8. *Ibid.*

9. From my research, it is unclear whether the Japanese borrowed the T tactic from the British or arrived at it independently and at roughly the same time as the British.

10. Arthur Marder, *The Anatomy of British Seapower: A History of British Naval Policy in the Pre-Dreadnought Era, 1880-1905* (New York: Alfred Knopf, 1940), 517.

11. Evans and Peattie, 77.

12. "Battle of Tsushima," *Wikipedia*, on-line at <http://en.wikipedia.org/wiki/Battle_of_Tsushima>, accessed 19 October 2004.

13. *Ibid.*

14. Ronald Spector, *At War at Sea: Sailors and Naval Combat in the Twentieth Century* (New York: Viking, 2001), 21.

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